



UNIT 16 WORKING CAPITAL

Structure

- 16.0 Objectives
- 16.1 Introduction
- 16.2 Working Capital
 - 16.2.1 Meaning
 - 16.2.2 Types
 - 16.2.3 Significance
- 16.3 Factors Influencing Working Capital Requirement
- 16.4 Operating Cycle
- 16.5 Ascertaining Working Capital Requirement
- 16.6 Financing of Working Capital
- 16.7 Role of Money Market
- 16.8 Working Capital Control and Banking Policy
- 16.9 Let Us Sum Up
- 16.10 Key Words
- 16.11 Terminal Questions / Exercises

16.0 OBJECTIVES

After studying this unit, you should be able to:

- e explain working capital and the factors that influence it;
- describe its importance in the financial management of firms;
- discuss the operating cycle concept;
- calculate the working capital requirement;
- measure the financial impact of credit and working capital policies;
- discuss the methods available to finance working capital requirements
- explain the role of money market and banking policy; and
- e examine the problem of working capital control.

16.1 INTRODUCTION

Most companies concentrate their managerial efforts on controlling profit. They try to increase sales revenue, reduce their production cost and control their overheads. Operational budgets are drawn up, standard costs are set and considerable effort is expended on identifying and rectifying variances of actual results against these budgets and standards. Managing the area of working capital can help between business survival and business failure.

However, few companies worry much about managing the area of working capital management. Many profitable companies fail because their management could not manage working capital effectively.

Working capital management is concerned with the management of short term assets and liabilities. Assets included here are cash, marketable securities, accounts receivable, inventory, prepaid expenses and other current assets and liabilities such as accounts payable, wages payable, and accruals. Working capital management is thus the process of planning, monitoring, controlling the mix of current assets and liabilities in a firm. In addition, it also involves deciding how the current assets are to be financed. Financing choices could include the mix of current as well as long term liabilities. This unit explains the meaning, significance and types of working capital, factor affecting and ascertaining working capital requirement, ways of financing working capital, role of money market and working capital control and banking policy.

16.2 WORKING CAPITAL

16.2.1 Meaning

Working capital is the name given to the difference between the current assets and current liabilities. Working capital is alternatively known as "Net Current Assets" or "Net Working Capital". Gross Working Capital is the total of current assets.

It includes four items :

- (a) **Stock** : Stocks of raw materials, work-in-progress and finished goods.
- (b) **Debtors** : Amounts owed to the company, mainly from customers in respect of sales made on credit.
- (c) **Cash** : Bank balances, cash holdings and short term investments,
- (d) **Creditors** : Amounts owed by the company, mainly to suppliers of raw materials, services (electricity, water, telephone, rent, etc.) unpaid tax, unpaid dividends.

Illustration 1 : The following figures have been extracted from a company's balance sheet:

	Rs.
CURRENT ASSETS:	
Stocks	27,00,000
Debtors	40,00,000
Cash	5,000
TOTAL CURRENT ASSETS	67,05,000
CURRENT LAIBILITIES:	
Creditors	17,05,000
NET CURRENT ASSETS or NET	50,00,000
WORKING CAPITAL	

What do these figures tell us? At the first glance, they would indicate:

- There are stocks but, a company needs stocks if it is to run its business.
- There are debtors but that is just a consequence of making credit sales.
- There does not seem to be much cash available so, may be, the company should be considering taking a loan or increasing capital to create a cash buffer.
- There are creditors, but may be they have scope to be extended further.

But one has to go in detail to know the level of working capital that is acceptable for the company.

Some of the other relevant questions to be asked are:

What are the annual sales of the company? How much of this is credit sales? Is that an industry norm?

What are the annual purchases? What is the inventory policy? Is there a way to reduce inventory without impacting sales?

In addition to the cash balance, does the company have short term marketable securities?

Is company getting enough credit from the suppliers? How many months purchases does this represent?

In order to make these judgments, several types of ratios are used that measure liquidity, adequacy and efficiency of working capital. These concepts will be elaborated later.

Some of the relevant business decisions that have to be taken in the context of working capital management are :

- How should the firm manage its cash?
To whom should the firm grant credit?
- How much inventory should the firm keep?
- What should be the composition of the firm's current debt?

16.2.2 Types

A company's need for working capital depends on the permanent and fluctuating current assets that it has to support. As such working capital may be permanent (fixed) or fluctuating (variable).

Fluctuating current assets are those that are affected by the cyclical nature of sales. For example, during the summer months, a soft drinks manufacturer has to maintain larger stocks in anticipation of growing sales than in winter months. Permanent current assets are those assets that held to meet the company's minimum long-term needs e.g. safety stock of cash and inventories.

16.2.3 Significance

To get the best possible returns firms should not keep unproductive assets and should finance with the cheapest available funds. It is advantageous for the firm to invest in short term assets and to finance with short term liabilities. For a firm there is uncertainty of demand, price, quality, availability of its own products and those of suppliers. There are transaction costs of purchasing or selling goods. Firms have limitations on production capacity and technology that it can use. There are fixed as well as variable costs associated with producing the goods.

The strategies using working capital accounts are the ways firms can address many of the problems that result from the imperfect and constrained world in which they deal.

In addition to its use as a means of handling uncertainty, the management of working capital plays an important role in maintaining the financial health of the firm during normal course of business.

16.3 FACTORS INFLUENCING WORKING CAPITAL REQUIREMENT

The size and nature of current assets to be held by a firm depends on a number of different factors such as :

- Type and nature of industry
- e Length of the operating cycle
- e Size of the business
- Working Capital Policy
- Efficiency of operations

The optimal level of working capital investment is the level expected to maximise shareholders' wealth. It is a function of several factors, including variability of sales and cash flows and the degree of operating and financial leverage employed by the firm. Therefore, no single working capital investment policy is necessarily optimal for all firms. The level of investment has to be tailored to suit the risk profile, funds availability and industry norms.

The firm not only has to make a choice of the level of current assets required to support the business, but it also has to determine what proportion is to be financed out of long term funds (equity or debt) and what proportion out of short term funds.

A prudent structure for financing current assets would be to have a portion of the current assets funded out of current liabilities and short term debt, but also have a portion of the current assets funded out of long term funds. This provides greater financial stability.

Check Your Progress A

- 1) What is the difference between net working capital and cash'?
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- 2) What is the optimum level of working capital?
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- 3) What are fluctuating current assets?
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16.4 OPERATING CYCLE

The major flow in terms of its yearly magnitude is the working capital cycle, e.g., in a manufacturing concern this cycle is cash – raw material-work-in-progress– inventory– debtors– cash. A significant point to note here is that the turnover or velocity of

velocity of resources moving through this cycle is the highest compared to any other flow in and out of the cash account.

This cycle is very important to the firm's survival. Imagine a bath tub with both the drain and the tap open. As long as the water (in this case cash) coming in to the system is higher than the amount drained from the system there will be enough water in the tub (cash to run operations). In other words, various items of working capital must bear a relationship with each other and maintain a balance. As long as the firm is able to regularly collect its receivables, it will have the cash to pay its bills and invest in further growth. But, if for some season, the resources stop flowing (water level) in the business (bath tub) profits begin to fall.

The firm will then be unable to meet its critical payment obligations to suppliers, employees, government taxes etc., causing significant embarrassment, and even sometimes winding up action from creditors.

An easy solution would be to keep a high cash balance in reserve. This is where the firm must make trade offs between liquidity and profitability. Cash is the least profitable asset. Therefore, one of the key decisions managements must make is the ideal trade off between liquidity and profitability and the right cash balance to be maintained. This will vary from industry to industry and will also depend on the seasonality of the business.

Working Capital Cycle

Cash flows in a cycle into, around and out of a business. It is the business' life blood and every manager's primary task is to keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate surplus cash. If it doesn't generate surpluses, the business will eventually be closed.

Importance of Cash

When planning the short or long term funding requirements of a business, it is equally important to forecast the requirements as it is to project profitability. Whilst profit, is a vital indicator of the performance of a business, the generation of a profit does not necessarily guarantee its development, or even the survival. A number of businesses, in spite of being profitable fail due to poor management of working capital leading to acute shortage of cash to run the business.

Cash vs. Profit

Organisations typically make the mistake of getting carried away by profitability statement without focusing simultaneously on cash flow. It is extremely important to make a distinction between cash flow and profitability.

Sales and costs and therefore, profits do not necessarily coincide with their associated cash inflows and outflows. While, a sale may have been secured and goods delivered, the related payment may be deferred as a result of giving credit to the customer. At the same time, payments must be made to suppliers, staff etc., cash must be invested in rebuilding depleted stocks, new equipment may have to be purchased etc. the net result is that cash receipts often lag cash payment and, whilst profits may be reported, the business may experience a short-term cash shortfall. For this reason it is essential to forecast flows.

The following example illustrates the timing differences between profits and cash flows:

Rs. Lakhs

Income Statement	Three months
Sales	Rs.75
Costs	Rs.65
Profit	Rs.10

The breakup is as follows:

Cash flows relating month 1	Month 1	Month 2	Month 3	Total
Receipts from sales	20	35	20	75
Payments to suppliers etc.	40	20	5	65
Net cash flow	(20)	15	15	10
Cumulative Net cash flow	(20)	(5)	10	10

This shows that the cash associated with the reported profit for Month 1 will not fully materialize until Month 3 and a serious cash short-fall will be experienced during Month 1 when receipts from sales will total only 20 lakhs as compared with cash payments to suppliers of Rs. 40 lakhs.

Working Capital Policy

The working capital needs and level of different current assets are estimated on the basis of sales forecast of goods and services. The efficient working capital management helps to increase both liquidity and profitability of a firm. It is not so easy to forecast sales and thus forecast of current assets is also uncertain. To meet this uncertainty, the financial manager has to keep a minimum level as well safety level for each of the current assets at different level of sales. The safety level is important component of working capital policy. There are three approaches to determine the working capital policy: (a) Conservative approach, (b) Aggressive approach, and (c) Moderate approach. In case of conservative working capital policy, the firm does not want to take risk. For every increase in sales, the level of current assets will be increased more than the proportion. Such a policy helps to reduce the risk of shortage of working capital by increasing safety component of current assets. Further such policy helps to reduce the risk of non-payment of liabilities.

In case of aggressive working capital policy the increase in sales does not result in proportionate increase in current assets. Such policy may throw the firm towards insolvency because of low liquidity. Further the profitability of the firm will be reduced. A middle path of moderate working capital is better. In such a policy the increase in sales level will proportionately increase the level of current assets. In simple words if the sales are expected to increase 10%, the current asset level is to be increased by 10%. If the current asset level is to be increased 15%, it is conservative approach and if the current asset level is increased by 8% it is aggressive approach.

Trade off between Liquidity and Profitability

The working capital policy also has to maintain a risk and return trade off between firm's liquidity and profitability.

In considering liquidity (risk) and profitability (return) two important points are to be considered: (a) costs and (b) risks. In aggressive policy, the investment in current assets is low. That will involve shortage of cash form of fall in production and sales and loss of customer's goodwill. In conservative approach the investment in current assets is higher. That involves carrying costs in the form of financing a higher level of current assets like granting liberal credit to customers. The second element risk increases if there is lower level of liquidity. The firm may become technically insolvent by not paying current liabilities as they occur. So there should be a trade off between profitability and liquidity. Let us see the above example again.

If the customer is willing to pay full amount in Month 1 if he gets a cash discount of 2%. Then the profit after discount falls from Rs. 10 lakhs to Rs. 8.5 lakhs. The cash flow and the profitability situation would look as follows:

Income Statement	Three months (Rs. in lakhs)			
Sales	73.50			
Costs	65.00			
Profit	8.50			
Cash flows relating month 1	Month 1	Month 2	Month 3	Total
Receipts from sales	73.50			
Payments to suppliers etc.	40.00	20.00	5.00	65.00
Net cash flow	33.50	(20.00)	(5.00)	8.50
Cumulative net cash flow	33.50	13.50	8.50	8.50

The faster a business expands, the more cash it will need for working capital and investment. Good management of working capital will generate cash to help improve profit and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

There are two elements in the business cycle that have impact on cash – inventory (stocks and work-in-progress) and receivables. The main sources of cash are payables (creditors and equity and loans).

Each component of working capital has two dimensions – time and money. When it comes to managing working capital – Time is Money. If we can get money to move faster around the cycle (e.g., collect monies due from debtors more quickly) or reduce the amount of money tied up (e.g., reduce inventory levels relating to sales), the business will generate more cash or it will need to borrow less money to fund working capital. As a consequence, we reduce the cost of bank interest or we will have additional free money available to support additional sales growth or investment. Similarly, if we can negotiate improved terms with suppliers e.g., get longer credit or an increased credit limit, we effectively create free finance to help to fund future sales.

If you	Then
• Collect receivable (debtors) faster	You release cash from the cycle
• Collect receivable (Debtors) slower	Your receivables soak up cash
• Get better credit (in terms of duration of amount) from suppliers	You increase your cash resources
• Shift inventory (stocks) faster	You free up cash
• Move inventory (stocks) slower	You consume more cash

It can be tempting to pay cash, if available, for fixed assets e.g. computers, plant, vehicles etc. If we pay cash, remember that this is no longer available for working capital. Therefore, if cash is tight, operating cash flows shouldn't be diverted for financing capital investment. Capital investment should be separately funded via loans, equity, leasing etc.

16.5 ASCERTAINING WORKING CAPITAL REQUIREMENT

Firms suffer from inadequate cash flow for a variety of reasons including rapid growth, recession, poor working capital management programmes and many other factors. Working capital management, also referred to as short-term financial planning, includes the management of cash, cash equivalents and short-term financial planning, is an activity that is critical to every business, and lack thereof can easily lead to business failure. Cash is essential for survival of all corporations. Management must tie all component of budgets together and produce a proforma (forecast) cash budget to ensure that the firm's desired levels of liquidity are maintained.

A key component of a firm's strategic plan is its budgeting system. The firm's budget serve to translate management's goals and objectives into a financial roadmap for success. Without proper budgeting system, many firms get off the course resulting in unnecessary loss of profits, cash flow and an increased chance of business failure.

Cash flows Forecasting

Normally, the main sources of cash inflows to a business are receipts from sales, increases in bank loans, proceeds of share issues and assets disposals, and other income such as interest earned. Cash outflows include payments to suppliers and staff, capital and interest repayments for loans, dividends, taxation and capital expenditure.

Net cash flow is the difference between the inflows and outflows within a given period. A projected cumulative positive net cash flow over several periods highlights the capacity of a business to generate surplus cash and conversely, a cumulative negative cash flow indicates the amount of additional cash required to sustain the business.

Cash flow planning entails forecasting and tabulating all significant cash inflows relating to sales, new loans, interest received etc., and then analyzing in detail the timing of expected payments relating to suppliers, wages, other expenses, capital expenditure, loan repayments, dividends, tax, interest payments etc. The difference between the cash inflows and outflows within a given period indicates the net cash flow. When this net cash flow is added to or subtracted from opening bank balances, any likely short-term bank funding requirements can be ascertained.

A cash flow model can be used to compile forecasts, assess possible funding requirements and explore the likely financial consequences of alternative strategies. Used effectively, a model can help prevent major planning errors, anticipate problems, identify opportunities to improve cash flow or provide a basis for negotiating short-term funding from a bank.

When preparing cash flow projections, be aware of the dangers of :

- Overstating sales forecasts
- Underestimating costs and delays likely to be encountered
- Ignoring historic trends or performances by debtors etc.
- Making unduly-optimistic assumptions about the availability of bank loans, credit, grants, equity etc.
- Seeking spurious accuracy whilst failing to recognize matters of strategic importance

These problems can arise as the result of oversight or knowledge, or because of excessive optimism. They can lead to under-estimation of the cash and other resources required to sustain or develop a business with potentially disastrous consequences.

Once the cash flows projections have been prepared, they should be critically examined and used as a management tool to control and improve the business's expected cash position.

Other Techniques

Besides the cash forecasting method, following are other methods of ascertaining working capital requirements.

- 1) Matching or Hedging approach
- 2) The percent of sales method
- 3) Financial Statement method
- 4) Operational Cycle method
- 5) Regression analysis method

According to matching principle the current asset should be financed according to the period of cash flow it generates. The source to finance it also should be of the same period. The rule is that the length of finance should match with the life duration of the asset.

Under percent of sales methods the working capital is determined as a percent of forecasted sales.

Financial statement method may depend on either balance sheet or profit and loss adjustment account. Under balance sheet method a forecast is made of various assets and liabilities of the business. Afterwards, the difference between the two is taken which will indicate either cash surplus or cash deficiency. Under profit and loss adjustment method forecasted profit are adjusted on cash basis. The starting point is cash from operations and non cash expenses are deducted from it e.g., depreciation. To the figure arrived at increase in current assets and decrease in current liabilities is taken as decrease in cash resources and *vice versa*.

The operational cycle method has already been explained. Under regression analysis method the following formula is used.

$$t = (r - c) + w + f + b$$

Where:

t = total period of operating cycle in days

r = average inventory of raw materials

c = average trade creditors

w = average work in progress

f = average inventory of finished goods

b = average bank debts

Illustration 2: From the following information you are required to estimate the net working capital.

Management of Working Capital

**Cost per unit
Rs.**

Raw Materials	400
Direct Labour	150
Overheads (excluding depreciation)	300
Total Cost	<u>850</u>

Additional Information:

Selling Price	Rs.1,000 per unit
Output	52,000 units per annum
Raw material in stock	average 4 weeks
Work-in-progress:	
(Consume 50% completion stage with full material consumption)	average 2 weeks
Finished goods in stock	average 4 weeks
Credit allowed by creditors	average 4 weeks
Credit allowed by debtors	average 8 weeks

Cash at bank is expected to be Rs.50,000. Assume that production is sustained at an even pace during the 52 weeks of the year. All sales are on credit basis. State any other assumption that you might have made while computing.

Solution:

Statement showing Net Working Capital Requirements

Current Assets:	Rs.
Stock of Raw Material (4 weeks)	
$52,000 \times 400 \times 4/52$	16,00,000
Stock of work-in-progress (2 weeks)	Rs.
Raw Material = $52,000 \times 400 \times 2/52$	= 8,00,000
Direct Labour (50% completion)	
$52,000 \times 150 \times 2/52 \times 50/100$	= 1,50,000
Overheads (50% completion)	
$= 52,000 \times 2/52 \times 50/100 \times 300$	= 3,00,000
	<u>12,50,000</u>
Stock of Finished goods (4 weeks)	
$= 52,000 \times 850 \times 4/52$	34,00,000
Amount blocked in debtors at cost (8 weeks)	
$= 52,000 \times 850 \times 8/52$	68,00,000
Cash at Bank	50,000
Total Current Assets	<u>1,31,00,000</u>

Less: Current Liabilities:

Working Capital

Creditors for raw materials (4 weeks)	
= 52,000 x 400 x 4/52	16,00,000
Net Working Capital required	1,15,00,000

Working Notes

- 1) Profit has been ignored and debtors have been taken at cost. The profit has been ignored because this may or may not be used as a source of working capital.
- 2) It has been assumed that raw material is introduced at the beginning of the process.

Check Your Progress B

- 1) What is working capital cycle?
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- 2) State the difference types of working capital policies?
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- 3) Define 'matching' approach used 'or determining working capital?
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16.6 FINANCING OF WORKING CAPITAL

Once financial projections are completed, it will be clear as to how much money is needed to be raised in order to finance the long term and short term needs of the business. The two main ways of financing a business are equity financing and debt financing.

Equity Financing

Equity capital is primarily used to fund long term assets and provide margin money for working capital.

Debt Financing

Debt capital is the money a business borrows. It must be fully repaid with interest, over a specific time period. While lenders do not share in business profits as investors do, they must be repaid with interest whether the business is showing a profit or not.

When determining the type of debt financing that is right for a business, the basic rules are:

Management of Working Capital

- Finance day-to-day operations (working capital) with short-term operating loans,
- Finance long-term fixed assets with longer-term loans or mortgages
- A portion of your short term working capital requirements may be funded through term sources,

Working capital management includes decisions such as level of cash balance to be maintained, credit limit to be extended and amount of borrowing to be done under the line of credit etc.

Informal forms of Credit

Trade Credit

This is the most simple and obvious mode of funding purchases. When firms purchase goods and services on credit terms, it is known as trade credit. Trade credit is generally given on open account basis. The supplier evaluates the credit worthiness of the buyer before supplying the goods and provides appropriate credit terms depending on the credit worthiness of the buyer. Typically the documentation is only the invoice that mentions item description quantity, value and terms of payment. The buyer accepts the goods and in effect agrees to pay the supplier as per invoice unless there is a communication from the party stating otherwise. Credit terms specify the conditions under which a firm is required to pay back the money due including the length, commencement date of credit period, cash discount of any.

Obtaining trade credit is normally easy, informal and not too difficult and hence forms an attractive form of finance. Also if the funds position improves and the firm no longer requires the credit, it gives the buyer the flexibility to make use of the credit as and when required.

Sometimes instead of open credit, Promissory Notes are signed by the buyer which clearly specifies the amount to be paid and the due date formally recognising the obligations to pay.

While trade credit is flexible, informal and relatively easy way to fund operations, the associated costs have to be considered. By the very nature of this credit, it is normal and often the cost of credit is not apparent either on the invoice or any other documentation that is signed, but is normally built into the price of the product. Therefore, it is necessary to find out the cash discount that the supplier is willing to offer for immediate payment without credit and make value the relative costs of trade credit and other sources of outside funds.

Stretching Accounts Payable

Stretching accounts payable beyond the standard agreed trade credit terms is an option that may be sometimes available not normally at a high cost. Interest and penalties for non payment on time would also be charged. That might be an effective way of funding small seasonal requirements of cash beyond the normal requirements. If a company gets a reputation of consistently paying late, suppliers will either refuse to offer any cash discounts to the company, may load up the prices of goods and services significantly before quoting to the company or refuse to deal with the company altogether. Therefore, this informal way of funding the operations has to be used very judiciously.

Accrued Expenses and Deferred Income

Accrued expenses are expenses such as wages payable, taxes payable, interest payable etc., that are accrued but not yet due. From the time when these charges accrue upto the point that they become due, they are available as sources of funds on

the balance sheet. The company may normally have no control over how long these amounts can be used to for funding operations, they merely happen to be available for a short period of time between accrual and due date and can be taken into account while forecasting cash requirements.

Deferred income consists of payments received from customers for goods and services yet to be delivered, hence constitute a source of funds. Advance payment received from customers are not "earned" by the firm until delivery of goods or services, hence are reflected as liability in the books as "Advance from customers", "Deferred income" or "Billing in Advance".

Formal Credit Arrangements

Commercial Paper

Commercial paper is a short term unsecured promissory note issued by large corporations. The maturity could range from days to months. It may be available at rates lower than the prevailing prime lending rate. This is a good funding option for large, financially sound corporations with good standing in the market place. Commercial Paper is sold on a discount basis. This means that if a paper for Rs. 10 lakhs is issued, the issuer gets 10 lakhs less the interest payable on maturity. On the due date the company has to repay the face value of the commercial paper, in this case Rs. 10 lakhs. Commercial Paper is typically bought by large corporations and banks with surplus funds to invest. In addition to the interest cost there might also be an arrangement or placement fee payable to the dealer who arranged for the sale of the issue. This cost also has to be factored in the cost of funds.

However, this is not a very reliable form of funding and may not be available to corporations at all points in time since this is also very much dependent on external market conditions such as liquidity, surplus cash available with corporations to invest etc. There is no provision for prepayment and hence, the company is forced to hold the investments till maturity and incur interest cost, even if it does not need the funds anymore. Therefore, the company should also have in parallel, other lines of credit open that would provide greater reliability (availability in time of need) and flexibility (option to repay when needs over).

Bank Credit Arrangements

Bank credit is available in several different forms such as working capital term loan cash credit, overdraft, bill discounting etc., that are fund based and letters of credit bank guarantee etc. that are non fund based credit. Each of these options will have a combination of interest rate maturity, flexibility, collateral security etc. Typically companies would use a combination of facilities to drive an optimal solution that trades off interest cost, availability, repayment flexibility etc.

Line of Credit

Line of credit is an agreement between the bank and the borrower wherein the bank commits a certain line of credit permitting the company to borrow upto that limit during a specified period. Within this line, the actual instruments for borrowing could be several such as cash credit, bill discounting etc., depending on the sub limits under each category that have been established. The most important factor here is the fact that the funds are available when the company needs it and is a flexible means of financing.

There would, in addition to interest that is charged for the period of utilisation, be a commitment fee that is charged upfront at the time of sanctioning the line of credit, irrespective of usage, that has to be factored as part of cost of funds.

There could also be uncommitted lines of credit arrangement where the bank agrees to provide a line of credit provided as long as the conditions do not change.

The line of credit may typically carry positive covenants such as:

- Minimum margin money for working capital to be maintained.
- Certain financial ratios that must be maintained, such as the current ratio
- Providing regular financial statements, stock and debtors statements etc.

Or some negative covenants such as:

- e Limiting the capital expenditure that may be incurred
- Selling an existing business or acquiring a new business
- Managerial remuneration for senior executives etc.

Revolving Credit Arrangement

It is similar to a line of credit, but is revolving in nature as the name suggests. This means that as and when the amounts drawn are repaid, the facility becomes available once again and hence against a particular loan a borrower may borrow and repay several times. Typically such revolving lines may be available from 1-3 years and renewal option will be reevaluated at the time of expiry of the credit arrangement.

- 1) Cash Credit/Overdraft
- 2) Single payment loans
- 3) Working Capital Term loan

A working capital term loan is a specific loan agreement with a fixed maturity of about 2-5 years. Typically this would be provided to fund working capital for a new project at initial stages upto the time that the operations of the business generate enough cash to start paying back the loan. Repayment can be in equal monthly, quarterly or annual installments or installments that are back loaded or a single payment at the end of the period.

Unsecured vs. Secured Borrowing

Unsecured borrowings are those loans that are advanced on the strength of the borrower's financial statement and expectation of future cash flows. In case of a default the lender does not have a claim on any specific set of assets. Unsecured loans are typically granted to firms with good financial standing.

Secured loans are those loans, where as part of a loan agreement, the lender has claim on a specific set of assets in case of default by borrower. Secured loans could either be collateralized loan or asset based loan.

In the case of a collateralized loan the bank still looks at the credit from a financial statement perspective. In case the borrower presents too much of a risk, then a second exit route is available to the lender by way of collateral security. Assets are the most widely used as collateral security.

Funding Receivables

Companies get their receivables funded either by pledging their receivables and taking a loan against the same or by factoring receivables.

Pledging Accounts Receivables

Accounts receivables are the most commonly used form of collateral for secure short term borrowing. From the lender's view point this is the most acceptable form of collateral. The company has to repay the loan irrespective of whether the receivables have been realised or not. In short, the loan is with recourse to the borrower and default risk of the customer is borne by the borrower.

Inventory Loans

Like receivables inventory is also commonly used to provide collateral for secured short term borrowings. The firm may hold different types of inventory, namely raw material, work-in progress and finished goods. Normally lenders would prefer to lend only against raw material or finished goods. They may not consider WIP easy saleable, and hence not liquid. The terms of lending against inventory would depend on physical characteristics, identifiably, liquidity and marketability of inventory. In case of perishable items like food, the inventory funding may be restricted to ageing of inventory in days, whereas in engineering goods it may be several months.

Bill Discounting

Bills of Exchange may be discounted by the firm from a bank to meet urgent needs.

Packing Credit (P.O. Financing)

Manufacturer /Distributor successfully markets product and receives order, but the orders are either too large or there are too many to accommodate. Better cash flow is required to increase output, but buyers won't make payments until 30-60 days after receiving their goods. Purchase Order Financing (P. O. Financing) is a method of funding the expenses prior to shipment by paying for cost of goods directly to the suppliers on behalf of the manufacturer/distributor. Manufacturers and Domestic Distributors need P.O. Financing. During times of growth and expansion, cash flow becomes insufficient. Suppliers want you to pay COD, and Buyers want to pay you Net 30-60. This means there is no income cash during manufacturing, while the goods are in transit, and until the invoices have matured (up to 90 days)

Three steps are to be completed for P.O. Financing:

- 1) Get a purchase order from a strong customer.
- 2) Find a reliable supplier
- 3) Make an order to the supplier

16.7 ROLE OF MONEY MARKET

The rapid evolution of deregulated money markets have made available to treasury managers several new instruments for short term financing and investment. Financial managers are tasked with job of managing individual working capital accounts (receivables, inventory, payables etc.) to balance the overall liquidity position of the firm. Financial markets provide several instruments that allow companies to manage their liquidity requirements on an ongoing basis. Financing markets refer to institutional arrangements for dealings in financial assets and credit instruments of different types such as currency, cheques, bank deposits, bills bonds etc.

The main functions of financial markets are:

- 1) To facilitate creation and allocation of credit and liquidity
- 2) To serve as intermediaries in the process of mobilization of savings in the economy
- 3) to provide the financial convenience to the people
- 4) To assist the process of economic development through a more balanced regional and sectoral distribution of funds

Financial markets are the credit markets. They cater to the various credit needs of the individuals, firms and institutions. Credit is generally required and supplied on short term or long term basis.

The financial markets are largely divided into two categories:

- 1) Money Market
- 2) Capital Market

Money market deals with market for short term funds whereas capital market deals with market for long term funds. For the purposes of this reading we will restrict ourselves to the money market.

Money Market

The term 'money market' refers to institutional arrangements facilitating borrowing and lending of short term funds. In the money market, funds may be borrowed for varying periods in time say, a day, a week, 3 to 6 months etc. and against different types of instruments such as bills of exchange, short term securities, bankers' acceptances, etc., called "near money". Money market is the collective name given to the various firms and institutions that deal in the various grades of near money. "They are thus close substitutes for money usually with maturities of less than a year".

The basic function of the money market is to provide facilities of adjustment of liquidates positions of commercial banks, business corporations, non-banking financial institutions and other investors. A flourishing money market is an effective catalyst that promotes economic growth. Moreover, the money market constitutes an efficient mechanism for credit control.

Characteristics of the Money Market

The purpose of money borrowed differs from person to person, institution to institution, and transaction to transaction. And the different purposes for which money is borrowed result in the creation of different kinds of financial assets, having different maturities, yields, default risks, and other features.

In the money market, loans have an original maturity of one year or less. Money market loans used to help corporations and government pay the wages and salaries of their workers, make repairs, purchase inventories, pay dividends and taxes and satisfy other short-term working-capital needs. In this respect the money market stands in sharp contrast to the capital market. The capital market deals in long-term credit that has over a year to maturity and is usually used to finance capital investment projects whereas the money market deals with the market for short-term credit.

The broad objectives of the money market are threefold:

- 1) It should provide an equilibrating mechanism for evening out short-term surpluses and deficits.
- 2) The money market should provide a focal point for central bank intervention for influencing liquidity in the economy.

- 3) It should provide reasonable access to users of short-term money to meet their requirement at a realistic price.

Risk faced by Investors in Financial Markets

Market Risk	The risk that the market price (value) of an asset wildfire, resulting in a capital loss when sold. Sometimes referred to as interest-rate risk.
Default risk	The probability that a borrower will fail to meet one or more promised principal or interest payments on a loan or security.
Inflation Risk	The risk that increases in the general price level that reduces the purchasing power of investor earnings from a loan or security investment.
Currency Risk	The risk that adverse movements in the price of one national currency <i>vis-à-vis</i> another that reduces the net rate of return from a foreign investment. Sometimes called exchange-rate risk.
Political risk	The probability that changes in government laws or regulations will reduce the investor's return from an investment.

Money Market Instruments

The money market is composed of several financial agencies that deal with different types of short term credit.

Money markets perform the crucial role of providing a conduct for equilibrating short-term demand for the supply of funds, thereby facilitating the conduct of monetary policy. The money market instruments mainly comprise:

- i) call money
- ii) certificates
- iii) treasury bills
- iv) other short-term government securities transactions, such as repos
- v) bankers' acceptances/commercial bills
- vi) commercial paper, and
- vii) inter-corporate funds

16.8 WORKING CAPITAL CONTROL AND BANKING POLICY

The overall financial structure of a firm influences liquidity, as do several other aspects impacting the operations of a firm, such as specific industry trends, product line management's efficiency in running its operations etc.

There is a hedge that occurs with a relationship between current assets and short term liabilities. The overall relationship between current assets (which produce cash inflows and) and current liabilities (that require cash outflows) will determine the size of gross hedge. If current assets can provide much more cash than required for meeting current liabilities, then chance of cash stock out is lessened. The overall relationship between the firm's potentially available cash and its potential cash needs determines the firm's aggregate liquidity position.

Ratio analysis is an important tool used by companies to monitor the interrelationships between various components of the financial statements and ensure that they are in balance.

Key Working Capital Ratios

1) Liquidity Ratios

Liquidity and short term solvency ratios are used to judge the firm's ability to meet current obligations such as accounts payables and current installments on long term debt. Liquidity ratios help us determine the extent to which assets quickly convertible to cash exceed immediate creditor payments. When an organization is unable to meet its financial obligations, it is said to be insolvent. Because insolvency leads to bankruptcy or even to liquidation of the business, investors and creditors closely scrutinize solvency ratios. The current and quick (acid test) ratios are the most commonly used ratios in this category.

a) Current Ratio: The current ratio is calculated by dividing the current assets by the current liabilities and is used to measure a firm's liquidity and the firm's short term solvency.

$$\text{Current ratio} = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

This ratio is an indicator of the firm's ability to meet its short term financial obligations (current liabilities). Higher the ratio, the better the ability to pay off its current payables.

A high current ratio could indicate funds tied up in unproductive assets adversely impacting profitability.

However, an unusually high current ratio should indicate two cautionary points requiring further investigation:

- a) Are too much funds tied up in current assets because of inefficient operations?
- b) Are the current assets reflected on the balance sheet realizable current assets?

If the debtors level is very high, one must look at ageing and ascertain whether the entire amount is realizable or not. Similarly, in case of high levels of inventory, one must look at ageing and ascertain whether the inventory is obsolete or has a realizable value.

The management must therefore make appropriate trade offs between profitability and liquidity.

b) Quick Ratio: The quick ratio is another measure of a firm's ability to meet its current obligations. It is calculated by dividing the total current assets less inventories by the total current liabilities less bank overdraft.

$$\text{Quick Ratio} = \frac{\text{Total Current assets} - \text{Inventories}}{\text{Total Current Liabilities} - \text{Bank Overdraft}}$$

The rationale for this ratio is that inventories are considered least liquid of all current assets and bank overdraft is seldom withdrawn at short notice. Therefore this ratio really measures the ability of the firm to meet those short term obligations that are most likely to be called upon for payment with those assets that are likely to be most quickly realizable in the very short term.

2) Activity Ratios

Activity Ratios are operating ratios used extensively by the management to measure the efficiency of its operations. These are also known as efficiency or turnover ratios and measure the intensity with which the firm uses its assets to generate sales. If the investment in various assets to generate sales is small, it could mean that the operations are being run very efficiently with minimal investments, if it is too small, it may be leading to poor customer service, or even loss of sales due to non-availability of product when required; if it too large, it means that funds are locked up due to inefficient operations and need to be relieved for more productive purposes through tightening of operations and relieving some of the locked up investments.

a) **Receivable Turnover Ratio:** Receivable Turnover Ratio measures the number of items on an average that receivables have been turned over in a year. This is computed by dividing net sales by the average receivable outstanding during the year.

$$\text{Receivable Turnover Ratio} = \frac{\text{Total Net Sales}}{\text{Average Net Receivables}}$$

The Days Sales Outstanding (DOS) represents the average collection period expressed in number of days and is calculated by dividing the number of days by the receivables turnover ratio.

$$\text{Days Sales Outstanding (DOS)} = \frac{\text{Number of days in a year}}{\text{Receivables Turnover Ratio}}$$

b) **Inventory Turnover Ratio:** Inventory Turnover measures the number of times the average inventory has been sold during the year and is calculated by dividing the cost of goods sold by the average inventory balance.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}$$

The amount of time required to sell the average inventory can be determined by dividing the inventory turnover ratio into number days in the year (365 days).

$$\text{Average inventory turnover days} = \frac{\text{Number of days in the years}}{\text{Inventory Turnover Ratio}}$$

The greater the number of times the inventory turns over, the more efficiently, the capital is being used. The smaller the inventory in relation to annual sales, greater is the sales activity that the inventory is able to support. The higher the ratio, lower are the funds deployed in inventory to achieve the given level of sales, but also means that orders for purchase of inventory have to be placed very often. However, purchasing decisions will be based on an inventory policy that will define the trade off efficient purchasing based on EOQ and the desired inventory turnover ratio.

In order to make good use of these activity ratios, it is first important to understand the specifics of how the particular measure operates and the relevant industry ratios,. It is also important to establish a goal that the firm wants to reach in terms of these ratios and monitor the same on a month to month basis to tract improvement.

Because of some of the limitations and contradictions in some of the ratios discussed above, there are some improved measures of liquidity.

3) Other Measures

- a) Cash Conversion Cycle
- b) Comprehensive Liquidity Index
- c) Net Liquid Balance

a) Cash Conversion Cycle

This measure is directly based on the concept of working capital cycle discussed earlier. In this cycle the firm purchases labour and materials, uses them to convert to inventory, sells inventory to generate receivables which are in turn sold to produce cash. In this cycle there are two types of current assets, namely inventory and accounts receivable generated at two different points in time that must be financed by one set of liabilities that provides financing, accounts payable and wages. The Cash Conversion Cycle is the net time interval between the expenditure of cash in paying the liabilities that provides financing, accounts payable and wages. The Cash Conversion Cycle is the net time interval between the expenditure of cash in paying the liabilities and the receipt of cash from the collection of receivables.

Cash Conversion Cycle = Average Collection Period + Inventory Conversion Period – Average Credit Period (with creditors)

The sum of Average Collections Period and Inventory Conversion period is known as the Operating Cycle.

The lower the cash conversion cycle, the more liquid the firm is said to be. However, this measure completely ignores cash which is a very important measure of liquidity.

b) Comprehensive Liquidity Index

This is a liquidity weighted version of the current ratio. This measure tries to overcome the limitations of the current ratio by weighting each asset by their nearness to cash.

$$\text{Composite Liquidity Index} = \frac{\text{Liquidity Adjusted Current Assets}}{\text{Liquidity Adjusted Liabilities}}$$

$$= (\text{Total Receivables} (1 - 1/\text{Debtors Turnover}) + \text{Total Inventory} (1 - 1/\text{Debtors turnover}) - (1/\text{Inventory Turnover}) / (\text{total Purchases} (1 - 1/\text{Creditors turnover}) + \text{Wages Payable} (1 - 1/\text{Turnover of Wages payable}))$$

The above gives the current ratio adjusted for liquidity

c) Net Liquid Balance

The Net Liquid Balance measures the firm's balance of cash and marketable securities. This balance reflects the true availability of cash for unanticipated cash requirements. Net liquid balance does not consider receivables and inventory as contributors to liquidity, rather, it assumes views them as items requiring to be financed. Accounts payable and accruals are not treated as maturing obligations but as items that would be permanently be available to partially fund the assets.

$$\text{Net Liquid Balance} = (\text{Cash} + \text{Marketable Securities} - \text{Notes Payable}) / \text{Total Assets}$$

These measures, though seeking to improve on the earlier ratios are by no means complete. They still do not measure the impact of off balance sheet relationships and the treatment of long term debt. e.g., if a firm has some valuable fixed assets that

can be liquidated quickly in case of an emergency. Also in the case of long term debt if there is any portion of long term debt which is payable in the short run, it should be considered as part of current liabilities.

Once a firm has decided on its level of liquidity to be maintained, it must have a structure of current debt that provides the desired liquidity.

Other working capital measures include the following:

- Bad debts expressed as a percentage of sales
- Cost of bank loans, lines of credit, invoice discounting etc.
- Debtor concentration – degree of dependency on a limited number of customers.

Once ratios have been established for your business, it is important to track them over time and to compare them with ratios for other comparable businesses or industry sectors.

Banking Policy

Ever since 1955, the Reserve Bank of India has been taking measures to redirect credit to priority sectors of the economy by imposing financial discipline among industrial borrowers. Various guidelines and directives are issued to banks for this purpose. Various committees were appointed from time to time to examine different aspects of bank finance and in particular to shape the regulation of bank finance for working capital. These committees were the Dahejia Committee, the Tandon Committee, the Chore Committee and the Maratha Committee.

In mid seventies, the RBI accepted the Tandon Committee suggestions that the norms for raw materials, work-in-progress and receivables be laid down for maximum level for holding them in each period. These norms are revised from time to time by a Standing Committee on an ongoing basis. Banks can deviate from these norms taking into account the past holding levels and other factors.

In 1995, a 'loan' system for delivery of bank credit was introduced. Under this system the maximum permissible bank finance (MPBF) calculated as per guidelines, banks are required to restrict sanction of cash credit limits to borrowers upto a certain portion. If borrowers want to avail the balance portion of MPBF or any part of it, this will be considered on merits by banks in form of short term loan repayable on demand for working capital purpose for a particular period. The bank can recover it in instalments or one-time payment. In 1988, the bank introduced 'Credit Monitoring Arrangement' as suggested by Maratha Committee. Under this the RBI does a post-sanction checking of working capital limits provided by banks beyond the prescribed limit. Following main points are examined:

- 1) Minimum current ratio is 1.33 or not.
- 2) The estimated sales, profit, production, current assets and current liabilities are according to past trends or not.
- 3) The information system has been complied with or not.
- 4) The renewal limits are in time or not.
- 5) Has the bank followed norms for inventory and receivables prescribed by standing committee? If there is a deviation from these norms, what is the justification.

The T bill and repo latest policy is given below:

The T-bill market was relatively free upto the early sixties. However, the seventies and the eighties were a period of widening fiscal imbalances. Consequently, "the resources of banks came to be incorporated in the fiscal allocation process". To keep the borrowing costs of the government down, the yields on T-bills were kept artificially low, often negative in real terms. The demand for T-bills was restricted to the captive market of banks, the latter investing in T-bills as means of maintaining SLR requirements. As the Chakravarty committee noted, purchasers of T-bills did not hold them till maturity because of their low yield but rediscounted the bills with the RBI before maturity. This led to a concentration of holdings of T-bills with the RBI, the latter holding 92.9 per cent of T bills outstanding in 1994. With excessive monetisation of the deficit in the 1990s, the issue of ad hoc 91 days T bills to finance the budget deficit the norm during the period.

The Reserve Bank introduced repo operations (selling government securities to repurchase later) on December 10, 1992 to influence short-term liquidity. Up to February 1995, the Reserve Bank usually engaged in 14-days repos, coinciding with the CRR maintenance period. However, since November 1996, the Reserve Bank has been conducting 3-4 days repos to absorb very short-term liquidity and stability money market rates. The Reserve Bank switched over from auction-based repos to daily fixed-rate repos in November 1997 to providing signals to money market rates and impart stability to short term interest rates by setting a floor to call rates. The repo rate continued to be at 6.00 per cent since March 2, 1999. The daily average outstanding amount of fixed rate repos in stood at Rs. 214 crore upto December, 1999, (as against a corresponding amount of Rs. 3713 crore for the whole of 1998-99) indicating easy liquidity condition in the market.

While the Reserve Bank conducts its repo operations by means of government securities, it has also allowed repo transactions among banks and select entities in PSU bonds and private corporate debt securities, which has provided the much needed liquidity support to the debt market. To further develop and widen the repos market, in April 1999, the Reserve Bank introduced regulatory safeguards, such as, delivery versus payment. In July 1999, non-bank participants in the money market were allowed to access short-term liquidity through repos, on par with banks and PDs thereby facilitating their cash management.

16.9 LET US SUM UP

Net working capital is the difference between current assets and current liability. Gross working Capital is the total of all current assets. Working capital requirements are influenced by factors like nature and type of business, length of operating cycle, size of business working capital policies and efficiency of operations. A firm may follow conservative approach, aggressive approach or moderate approach to determine working capital policy. There are two ways of financing of working capital debt financing and equity financing. Equity Financing provide margin provide margin working capital. Financial markets provide several instrument that allow firms to manage their liquidity. Money market deals with short term funds. Ratio analysis is an important tool to monitor the inter-relationship between various components of financial statements and ensure that they are in balance. These ratios are liquidity ratios:

current ratio, quick ratio, activity ratios: receivables turnover ratio and inventory turnover ratio. There are other measures also namely cash conversion cycle, comprehensive liquidity index and net liquidity balance. Reserve Bank of India has been taking measures to redirect credit policy to priority sectors. Various guidelines and directives are issued to banks from time to time.

16.10 KEY WORDS

Gross Working Capital : The total of current assets.

Line of Credit : An agreement between the bank and the borrower where in the bank commits a certain line of credit permitting the company to borrow upto that limit during a specified period.

Net Working Capital : The difference between current assets and current liabilities.

Operating Cycle : The time period between the acquisition of inventory and the collection of cash from receivables.

Money Market : Market deals with short term funds.

16.11 TERMINAL QUESTIONS/EXERCISES

- 1) Explain the factors that influence working capital needs.
- 2) Explain the different approaches of working capital policy. What are their consequences?
- 3) How the risk and return trade off is maintained by working capital policy?
- 4) How working capital requirements can be ascertained?
- 5) Explain the different formal and informal credit arrangements?
- 6) Define 'Money Market' Explain its characteristics.
- 7) Write short notes on:
 - a) Working Capital Ratios
 - b) T bills and Repo